IN THE CLAIMS

Please add new claims as indicated below:

1. (Previously Amended) An apparatus capable of sensing pressure comprising:
a support structure; and
a sensor disposed on the support structure, the sensor including:
a ferromagnetic biasing layer;
a nonmagnetic conducting layer disposed on the ferromagnetic biasing layer; and
a magnetoresistive layer, wherein the magnetoresistive layer has non-zero magnetostriction such that a resistance of the magnetoresistive layer will change upon the application of pressure.

2. (Original) An apparatus according to claim 1 wherein the support structure is a deformable beam.

3. (Original) An apparatus according to claim 2 wherein the deformable beam is formed of semiconductor or insulator layers.

4. (Original) An apparatus according to claim 2 wherein the deformable beam is formed of a conductor.

5. (Original) An apparatus according to claim 2 wherein the deformable beam has a length of between 2 microns to several hundred microns.

6 (Original) An apparatus according to claim 5 wherein the deformable beam has a thickness ranging from 0.1 micron to 20 microns.

7. (Previously Amended) An apparatus according to claim 6 wherein a width of the beam ranges from 2 1 microns to several microns.

8. (Original) An apparatus according to claim 1 wherein the support structure is a membrane.

9. (Original) An apparatus according to claim 1 wherein the support structure is formed within a cavity.

10. (Original) An apparatus according to claim 1 wherein the sensor has a length of 1 to several hundred microns.

11. (Original) An apparatus according to claim 1 wherein the nonmagnetic conducting layer includes tantalum.

12. (Original) An apparatus according to claim 11 wherein the biasing layer includes one of an alloy of Ni-Fe-Cr, and a laminated layer of CoTaZr and NiFeCr.

13. (Original) An apparatus according to claim 12 wherein the magnetoresistive layer includes a nickel alloy.

14. (Original) An apparatus according to claim 1 wherein the biasing layer includes one of an alloy of Ni-Fe-Cr, and a laminated layer of CoTaZr and NiFeCr.

15. (Original) An apparatus according to claim 14 wherein the magnetoresistive layer includes a nickel alloy.

16. (Original) An apparatus according to claim 1 wherein the magnetoresistive layer includes a nickel alloy.

17. (Previously Amended) An apparatus according to claim 1 wherein a thickness of each of the ferromagnetic biasing layer, the nonmagnetic conductive layer and the magnetoresistive layer are within the range of 0.001μm – 0.5 μm.

18. (Original) An apparatus according to claim 1 further including an insulating layer disposed over the magnetoresistive layer and a conductive layer disposed over the insulating layer such that the conductive layer provides for protection from electrostatic discharge.

19. (Original) An apparatus according to claim 1 further including an underlayer disposed between the support structure and the ferromagnetic biasing layer.

20. (Original) An apparatus according to claim 10 wherein the underlayer comprises one of Tantalum and a composite of tantalum and Ni48Fe12Cr40.

21. (Previously Amended) An apparatus capable of sensing pressure comprising:
a substrate; and
a plurality of sensor devices disposed on the substrate in an array, each of the sensor devices including:
a support structure; and
a sensor disposed on the support structure, the sensor including:
a ferromagnetic biasing layer;
a nonmagnetic conducting layer disposed on the ferromagnetic biasing layer; and
a magnetoresistive layer, wherein the magnetoresistive layer has non-zero magnetostriction such that a resistance of the magnetoresistive layer will change upon the application of pressure.

22. (Original) An apparatus according to claim 21 wherein each of the support structures is a deformable beam.

23 (Original) An apparatus according to claim 22 wherein each of the deformable beams is formed of semiconductor or insulator layers.

24. (Original) An apparatus according to claim 22 wherein each of the deformable beams is formed of a conductor.

25. (Original) An apparatus according to claim 22 wherein each of the deformable beams has a length of between 2 microns to several hundred microns.

26. (Original) An apparatus according to claim 25 wherein each of the deformable beams has a thickness ranging from 0.1 micron to 20 microns.

27. (Previously Amended) An apparatus according to claim 26 wherein a width of each of the beams ranges from 1 microns to several microns.

28. (Original) An apparatus according to claim 21 wherein the support structure is a membrane.

29. (Original) An apparatus according to claim 21 wherein each of the support structures is formed within a cavity.

30. (Original) An apparatus according to claim 21 wherein each sensor has a length of 1 micron to several hundred microns.

31. (Original) An apparatus according to claim 21 wherein each of the nonmagnetic conducting layers includes tantalum.

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32. (Original) An apparatus according to claim 31 wherein each of the biasing layers includes one of an alloy of Ni-Fe-Cr, and a laminated layer of CoTaZr and NiFeCr.

33. (Original) An apparatus according to claim 32 wherein each of the magnetoresistive layers includes a nickel alloy.

34. (Original) An apparatus according to claim 21 wherein each of the biasing layers includes one of an alloy of Ni-Fe-Cr, and a laminated layer of CoTaZr and NiFeCr.

35. (Original) An apparatus according to claim 34 wherein each of the magnetoresistive layers includes a nickel alloy.

36. (Original) An apparatus according to claim 21 wherein each of the magnetoresistive layers includes a nickel alloy.

37. (Previously Amended) An apparatus according to claim 21 wherein a thickness of each ferromagnetic biasing layer, each nonmagnetic conductive layer and each the magnetoresistive layer is within the range of 0.001 micron – 5 micron.

38. (Original) An apparatus according to claim 21 further including an insulating layer disposed over each magnetoresistive layer and a conductive layer disposed over each insulating layer such that each conductive layer provides for protection from electrostatic discharge.

39 (Original) An apparatus according to claim 21 further including an underlayer disposed between each support structure and the corresponding ferromagnetic biasing layer.

40. (Original) An apparatus according to claim 39 wherein the underlayer is one of Tantalum and a composite of tantalum and Ni48 Fe12Cr40.

41-68. (Cancelled).

69. (New) An apparatus according to claim 1 wherein the change in resistance upon the application of pressure is measured using a current that is adapted to detect the change in resistance.

70. (New) An apparatus according to claim 21 wherein the change in resistance upon the application of pressure is measured using a current that is adapted to detect the change in resistance.

71. (New) An apparatus according to claim 21 wherein the plurality of sensors each detect pressure applied during the obtaining of a fingerprint and the resistance sensed by each of the plurality of sensors is used to determine the fingerprint, certain of the sensors detecting ridges of the fingerprint, and other ones of the sensors detecting valleys of the fingerprint.